

Work Order ID 63095

Page 1

Wednesday, October 20, 2010 4:06:13 PM

Item ID: D350-591-214

Accept



Setup Start



Revision ID:

Stop



Item Name: Heli-Access-Step, Short RH

Start Date: 10/20/2010 Start Qty: 4.00



Cust Item ID:

Required Date: 10/27/2010 Req'd Qty: 4.00



Customer:

Reference:

Approvals:

Process Plan: *N* Date: 10-10-21 Tooling: Date:

Run Start

QC: Date: SPC (Y/N): Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3078

A

DSI 9472

A

100

0.00



DC

DOCUMENT CONTROL

Memo

0.00

Document Control

Photocopy bluefile and type labels as per PPP D350-591-214 CHG003

*8/10/10/10**Off for CL 10/11/10*

110

0.00



Large Fab

Large Fab

Memo

0.00

Large Fab

1-Cut D2622-120 extrusion to 59.75" long as per Dwg D3078
2-Drill extrusion as per Dwg D3078 using Jig DT8680 for rivets.
3-Debur*10.10.25**4* *[Signature]*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				(X4)			
130 Large Fab Large Fab	Large Fab Memo 1-Bevel end for welding FWD ONLY 2-Weld Support using Jig DT8681, weld Fwd End Plate as per QSI 004 & Dwg D3078 A/RAluminum Rod M114377 3-Grind End Plate flush M108436	0.00 0.00				4	0		10-10-27
140 QC Quality Control	QC9- Inspect visual per QSI004- Fusion Welds Memo	0.00 0.00				4	0		BE 10/10/28

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150  QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00	S 10/10/29						
160  HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00	-1) H 10/10/29			X4	Ø		
170  QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00	H 10.11.01			4	Ø		

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Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

200



Large Fab

Large Fab

Large Fab

Memo

1- Rivet Leg Assembly as per Dwg D3078.

2-Bevel Aft end for welding

3-Inspect for foreign object as per QSI 024

4-Weld Aft End Plate as per QSI 004 & Dwg D3078
A/R Aluminum Rod 11108436

5-Grind End Plate flush

0.00

0.00

0.00

0.00

R 10.11.01

4

0

4 0 BE 10/11/04

210



QC

Quality Control

QC9- Inspect visual per QSI004- Fusion Welds

Memo

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

220

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

Siolaloy



230

Chemical Conversion Coat per QSI005 4.1

0.00



HandFinish

Memo

0.00

Hand Finishing

HRA 10-11-8

240

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00



Powdercoat

Memo

0.00

Powder Coating

M115291.
START TIME: 9:15
OVEN TEMPERATURE: 320°
FINISH TIME: 9:45

HRA RA 10-11-9

W/O:		WORK ORDER CHANGES					
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Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Run

Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

250



HandFinish

Hand Finishing

Wing Walk as per dwg QSI005 4.4 Batch 1115796

0.00

=> 9/10/10/09

4 0

Memo

260



QC

Quality Control

QC3- Inspect Part Finish

0.00

0.00

S 10/11/10

x4

RH

Memo

270



Packaging

Packaging

Pick Kit

0.00

0.00

Memo

10/11/10 SP (u)

W/O:		WORK ORDER CHANGES					
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Customer:





Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
280  QC Quality Control	QC4- 100% Inspect kits for completeness Memo	0.00 0.00				xy by			
290  Packaging Packaging	Packaging Memo Identify and pack for shipping as per PPP D350-591-214 Location: <u>80</u> PPP Rev: <u>E</u>	0.00 0.00						10/20/10 sl (4)	
300  QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00							10/11/11  10-11-11 (4)

W/O:		WORK ORDER CHANGES					
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Wednesday, October 20, 2010 4:06:16 PM

[illegible]

TESTE SINE VITI CULPA TESTE SINE VITI




Start Date: 10/20/2010

Required Date: 10/27/2010

Start Qty: 4.00

Required Qty: 4.00

Comments: IPP Rev:B05.10.14 Modified step 10 KJ/EC
IPP Rev:C 06-06-19 Added D2732-030 AS PER DSI9294 JLM
IPP Rev:C 06-06-27 Revised as per DSI9340 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2622-120C  Step Extrusion		Manufactured	No			110	Each	153.4200	0.5	2		10.10.25	
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				WA				153.42					
				55214				3.42					
				58544				25					
				<u>61208</u>				125					
D3063-1  Support		Manufactured	No			130	Each	36.0000	1	4		10.10.27	
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				WA				36					
				351237				36					
				<u>59663</u>				36					
D3067-1  End Plate		Manufactured	No			130	Each	202.0000	1	4		10.10.27	
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				WA				202					
				60141				38					
				<u>62664</u>				164					

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

Wednesday, October 20, 2010 4:06:16 PM

Work Order ID: 63095



Parent Item: D350-591-214



Parent Item Name: Heli-Access-Step, Short RH

Start Date: 10/20/2010

Required Date: 10/27/2010

Start Qty: 4.00

Required Qty: 4.00

D3066-1 Manufactured No

200 Each

153.0000 2 8



Spacer



10.11.01

Location

Loc Qty

Loc Code

WA

153

60194

1

61205

48

62662

104

MS20600-AD4W4

Purchased No

200 Each

1,427.000 16 64



Rivets



10.11.01

Location

Loc Qty

Loc Code

ST321

1427

113368

62

114181

11

114718

2

115573

352

115640

1000

D3065-041

Manufactured No

200 Each

61.0000 1 4



Step Leg Assembly Hi



10.11.01

Location

Loc Qty

Loc Code

WA

61

61216

36

62224

25

D3067-1

Manufactured No

200 Each

202.0000 1 4



End Plate



10.11.01

Location

Loc Qty

Loc Code

WA

202

60141

38

62664

164

Wednesday, October 20, 2010 4:06:16 PM

Shop Packet Print

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Work Order ID: 63095

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Parent Item Name: Heli-Access-Step, Short RH

Start Date: 10/20/2010

Required Date: 10/27/2010

Start Qty: 4.00

Required Qty: 4.00

AN4-16A

Purchased No

270

Each

239.0000

4

16

Bolt

Location

Loc Qty

Loc Code

ST360

239

115159

34

115374

105

115422

100

D2732

Manufactured No

270

f

96.1824

1

4

Rubber Extrusion

Location

Loc Qty

Loc Code

ST412

96.182437

56516

96.182437

Cut 3.00" long, qty 4

AN3-35A

Purchased No

270

Each

156.0000

2

8

Bolt

Location

Loc Qty

Loc Code

ST353

156

115108

6

115457

50

115936

100

AN4-11A

Purchased No

270

Each

408.0000

2

24

Bolt

Location

Loc Qty

Loc Code

ST357

408

110382

208

115316

200

W/O: 63095		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
10/14/04	#100	Per. Change update qty 1 on A14-11A. Parts list has qty of 2 not 16.	M	10.11.02			S 10/14/04	

Part No: D350-591-214 PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Parent Item Name: Heli-Access-Step, Short RH

Start Date: 10/20/2010

Required Date: 10/27/2010

Start Qty: 4.00

Required Qty: 4.00

AN960JD416 NAS1149D0463J Purchased No

270 Each 24.0000 12 48



Washer



11/10/25 10/11/10

Location

Loc Qty

Loc Code

ST300

24

113288

24

D2230-3 Manufactured No

270 Each 2.0000 2 18



Lug



11/10/25 10/11/10

Location

Loc Qty

Loc Code

ST476

2

55452

2

D2856-400 Manufactured No

270 f 235.4160 0.6 2.4



Abraison Strip



10/11/10

Location

Loc Qty

Loc Code

ST403

235.4160421

56626

51.0960421

59920

184.32

cut 7.20" long, qty 1

MS21042L3 Purchased No

270 Each 2,346.000 2 1 8



Nut



10/11/10

Location

Loc Qty

Loc Code

ST300

2346

114523

49

114784

1297

115835

1000

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Shop Packet Print

Page 4

Dart Aerospace Ltd

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Start Date: 10/20/2010

Required Date: 10/27/2010

Start Qty: 4.00

Required Qty: 4.00

AN4-13A

Purchased

No

270

Each

502.0000

4

'16



Bolt



M116075 10/11/10

Location

Loc Qty

Loc Code

ST357

300

115936

300

ST358

202

115159

202

D2230-1

Manufactured

No

270

Each

3.0000

2

'18



Lug



B62605 10/11/10

Location

Loc Qty

Loc Code

ST476

3

61713

3

MS21042L4

Purchased

No

270

Each

3,257.000

6

24



Nut



10/11/10 (70)

Location

Loc Qty

Loc Code

ST300

3257

113422

68

114523

8

114718

16

114784

32

115108

133

115589

1900

115621

1100

24

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Start Qty: 4.00

Required Qty: 4.00

AN960JD10

NAS1149D0363J Purchased

No

270

Each

8.0000

4

16



Washer



M115620 10/11/10 (u)

Location

Loc Qty

Loc Code

ST	6	
107715	6	
ST335	2	
105792	2	

W/O:		WORK ORDER CHANGES					
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DESIGN <i>CP</i>	DRAWN BY <i>CP</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>#</i>	APPROVED <i>#</i>	DRAWING NO. D3078	REV. A SHEET 1 OF 2
DATE 02.09.11		TITLE STEP ASSEMBLY, HI SHORT SCALE NTS	
A	02.09.11	NEW ISSUE	

RELEASED
02.01.10 *#*

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 63095
DS 10-10-21

Part No.	Description	QTY -041	QTY -042
D3078-041	Step Assembly, High Short (LH)	X	
D3078-042	Step Assembly, High Short (RH)		X
D2622-60	STEP EXTRUSION	1	1
D3063-1	SUPPORT	1	1
D3065-041	LEG ASSEMBLY	1	1
D3066-1	SPACER	2	2
D3067-1	END PLATE	2	2
MS20600AD4W4	RIVET	16	16

GENERAL NOTES:

- 1) -041 SHOWN, FOR -042 INSTALL D3063-1 SUPPORT OPPOSITE SIDE
- 2) WELD PER DART QSI 004
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT ASSEMBLY WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

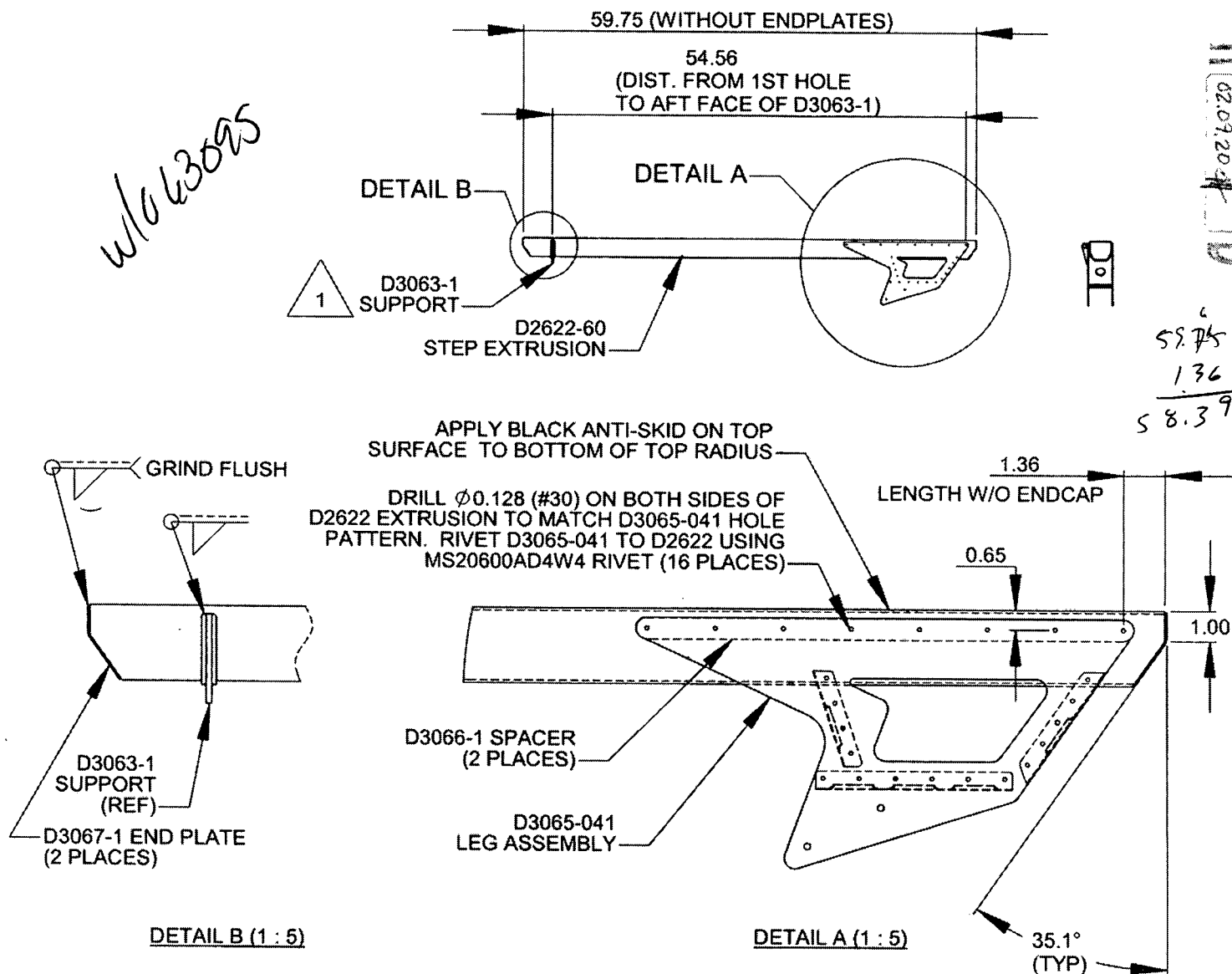
DART



DESIGN	DRAWN BY	DART AEROSPACE LTD
CHECKED	APPROVED	HAWKESBURY, ONTARIO, CANADA
DATE	DRAWING NO.	REV. A
02.09.11	D3078	SHEET 2 OF 2
TITLE	SCALE	
STEP ASSEMBLY, HI SHORT	1:20	

RELEASED
02.09.2011

58.75
1.36
58.39



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w/c 63095

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

REFERENCE ON

DART AEROSPACE LTD.

D350-591
Page 23 of 23

Qty -211	Qty -212	Qty -213	Qty -214	Qty -215	Qty -216	Qty -311	Qty -312	Part Number	Description
X								D350-591-211	<i>Heli-Access-Step</i> ™, Long Step – High Skid, LH
	X							D350-591-212	<i>Heli-Access-Step</i> ™, Long Step – High Skid, RH
		X						D350-591-213	<i>Heli-Access-Step</i> ™, Short Step – High Skid, LH
			X					D350-591-214	<i>Heli-Access-Step</i> ™, Short Step – High Skid, RH
				X				D350-591-215	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, LH
					X			D350-591-216	<i>Heli-Access-Step</i> ™, Short Step – Low Skid, RH
						X		D350-591-311	<i>Heli-Access-Step</i> ™, Long Step – High Skid, LH
							X	D350-591-312	<i>Heli-Access-Step</i> ™, Long Step – High Skid, RH
1								D3070-041	STEP ASSEMBLY (HIGH-LONG, LH)
	1							D3070-042	STEP ASSEMBLY (HIGH-LONG, RH)
		1						D3078-041	STEP ASSEMBLY (HIGH-SHORT, LH)
			1					D3078-042	STEP ASSEMBLY (HIGH-SHORT, RH)
				1				D3168-041	STEP ASSEMBLY (LOW-SHORT, LH)
					1			D3168-042	STEP ASSEMBLY (LOW-SHORT, RH)
						1		D3272-041	STEP ASSEMBLY (HIGH-LONG, LH)
							1	D3272-042	STEP ASSEMBLY (HIGH-LONG, RH)
4	4							D2182B035	RUBBER CUSHION
		2	2	2	2			D2230-1	MOUNTING LUG
		2	2	2	2	4	4	D2230-3	MOUNTING LUG
8	8							D2274	RADIUS BLOCK
						2	2	D2618	BUSHING
4	4	4	4	4	4			D2732-030	CUSHION
2	2	1	1	1	1	2	2	D2856-400-720	ABRASION STRIP
2	2							D3064-1	CLAMP
1	1							D3079-041	SUPPORT ASSEMBLY
4	4							D3080-1	CLAMP
						2	2	D3235-1	MOUNTING LUG
						1	1	D3278-041	SUPPORT ASSEMBLY
2	2	2	2	2	2	2	2	AN3-35A	BOLT
10	10	2	2	2	2			AN4-11A	BOLT
		4	4	4	4	8	8	AN4-13A	BOLT
						2	2	AN5-36A	BOLT
4	4	4	4	4	4	4	4	AN960JD10	WASHER
20	20	12	12	12	12	16	16	AN960JD416	WASHER
						4	4	AN960JD516	WASHER
2	2	2	2	2	2	2	2	MS21042L3	NUT
10	10	6	6	6	6	8	8	MS21042L4	NUT
						2	2	MS21042L5	NUT
						1	1	*DSI 9410-011	STEP MODIFICATION KIT

*DSI 9410-011 Step Modification Kits are provided with all D350-591-311 and D350-591-312 Steps. This kit is provided as an option for the installer and is therefore **NOT REQUIRED** to complete the installation of the D350-591-311 or D350-591-312 Steps. Refer to Figure 21 for installation of the DSI 9410-011 Kit.

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Revision: G
Date: 08.10.06

REFERENCE ONLY

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D350-591 REV. G OR EARLIER
AND
INSTRUCTIONS OF CONTINUED AIRWORTHINESS ICA-D350-591 REV. 2 OR EARLIER
REF CANADIAN STC: SH92-6
REF FAA STC: SH967NE


For D350-591-213/-214/-215/-216 steps, customers have the option of installing D2732-030 cushion under the clamps to accommodate varying cross-tube diameters and to improve fit, as indicated in Installation Instructions D350-591. This Service Instruction adds longer AN4-16A bolts to the parts list to allow installation of these cushions. See Figure 1 on sheet 2 of this service instruction for reference. Installation of the D2856-400-720 Abrasion Strips per Installation Instructions D350-591 is not required when the cushions are installed.

For D350-591-213/-214/-215/-216 steps at CHG 003, the parts list of D350-591 Rev. G and ICA-D350-591 Rev. 2 is amended as follows:

ADD:

Qty -213	Qty -214	Qty -215	Qty -216	Part Number	Description
X				D350-591-213	Heli-Access-Step™, Short Step – High Skid, LH
	X			D350-591-214	Heli-Access-Step™, Short Step – High Skid, RH
		X		D350-591-215	Heli-Access-Step™, Short Step – Low Skid, LH
			X	D350-591-216	Heli-Access-Step™, Short Step – Low Skid, RH
4	4	4	4	AN4-16A	BOLT

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED
BY: 
D. SHEPHERD (DE # 02)
DATE: 09.08.05
CERT. NO.: SH92-6
ISSUE NO.: 11

A	NEW ISSUE	RF	09.08.05
REV.	DESCRIPTION	BY	DATE
DESIGN	92	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF	DRAWING NO. REV. A	
CHECKED	LP	DSI 9472 SHEET 1 OF 2	
MFG. APPR.	NDA	TITLE SCALE	
APPROVED	MA	BOLT ADDITION NTS	
DE APPR.	MA	COPYRIGHT © 2009 BY DART AEROSPACE LTD	
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